UNITED STATES PATENT AND TRADEMARK OFFICE

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Ditthavong & Steiner, P.C.
44 Canal Center Plaza
Suite 322
Alexandria, VA 22314

EXAMINER
NGUYEN, KIMBINH T

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte VILLE-VEIKKO MATTILA and MATEI STROILA

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Appeal 2017-001198
Application 14/157,984
Technology Center 2600

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Before JEAN R. HOMERE, DEBRA K. STEPHENS, and
JOHN A. EVANS, *Administrative Patent Judges*.

EVANS, *Administrative Patent Judge*.

DECISION ON APPEAL[1]

Appellants[2] seek our review[3] under 35 U.S.C. § 134(a) from Final

Rejection of Claims 1–20. App. Br. 4. We have jurisdiction under 35

U.S.C. § 6(b). Claims 21–48 have been canceled. Claims App'x.

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[1] Our Decision refers to Appellants' Appeal Brief filed April 25, 2016
("App. Br."); Appellants' Reply Brief filed October 25, 2016 ("Reply Br.");
and the Examiner's Answer mailed August 25, 2016 ("Ans.").
[2] The real party in interest identified by Appellants is Nokia Corporation.
App. Br. 1.
[3] We have considered in this decision only those arguments Appellants
actually raised in the Briefs. Any other arguments which Appellants could
have made but chose not to make in the Briefs are deemed to be waived. *See*
37 C.F.R. § 41.37(c)(1)(iv).

We AFFIRM.

STATEMENT OF THE CASE

The claims are directed to a method and apparatus for evaluating environmental structures for in-situ content augmentation. *See* Abstract. Claims 1 and 11 are independent. Claim 1 is illustrative of Appellants' invention, as reproduced below with disputed limitations italicized and some formatting added:

> 1. A method comprising facilitating a processing of and/or processing, by a processor, (1) data and/or (2) information and/or (3) at least one signal, the (1) data and/or (2) information and/or (3) at least one signal based, at least in part, on the following:
>
> > at least one determination of three-dimensional mesh data associated with one or more object surfaces depicted in at least one image;
>
> > a processing of the three-dimensional mesh data, the at least one image, or a combination thereof to determine one or more surface features of the one or more object surfaces; and
>
> > *at least one determination of at least one score indicating a suitability for in-situ augmentation of the one or more object surfaces with at least one content presentation based, at least in part, on the one or more surface features.*

References

The Examiner relies upon the prior art as follows:

Tatzgern, *et al.*,	US 2012/0075433 A1	Mar. 29, 2012
Wagner, *et al.*,	US 2014/0267397 A1	Sept. 18, 2014

Bunnun, *et al.*, *In-Situ Interactive Image-Based Model Building for Augmented Reality from a Handheld Device*, Virtual Reality, 2012.

Examiner's Rejections

1. Claims 1–10 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Final Act. 2–4.

2. Claims 1, 4, 6–11, 14, and 16–20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wagner and Tatzgern. Final Act. 5–10.

3. Claims 2, 3, 5, 12, 13, and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wagner, Tatzgern, and Bunnun. Final Act. 10–12.

ANALYSIS

We have reviewed the rejections of Claims 1–20 in light of Appellants' arguments that the Examiner erred. We consider Appellants' arguments *seriatim,* as they are presented in the Appeal Brief, pages 4–14, and in the Reply Brief, pages 2–5.

CLAIMS 1–10: NON-STATUTORY SUBJECT MATTER

The Supreme Court has set forth an analytical "framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd. V. CLS Bank Int'l,* 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.,* 132 S. Ct. 1289, 1296-97 (2012)). The first step in the analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts," and if so, consider the elements of the claims "individually and 'as an ordered combination'" to determine whether there are additional elements that "'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo,* 132 S. Ct. at 1298, 1297). The second step

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is to "search for an 'inventive concept'-- i.e., an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself'." *Id.* (quoting *Mayo*, 132 S. Ct. at 1294).

Patent-ineligible concept.

Appellants contend the instant application and claims include physical features to place them outside the realm of abstraction. App. Br. 6–7.[4] Appellants argue the instant application requires a specific computer to create meshes. App. Br. 6. According to Appellants, the instant application is directed to selecting content to be presented on features of objects. App. Br. 6.

The Examiner finds the method of Claim 1 is directed to the concept of processing data through mathematical relationships to determine a score indicating suitability for in-situ augmentation of object surfaces with content. Ans. 3. The Examiner has not set forth with sufficient specificity, why claim 1 is drawn to an abstract idea of processing data related to a surface of a geometrical object to determine whether the object surface is suitable for modification with content. Ans. 3.

Appellants argue that the claims amount to significantly more than an abstract idea. Reply Br. 4. Appellants assert physical features such as "processors," "objects," "meshes," "surface features," "content

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[4] We note Appellants inadvertently mischaracterize Claim 1 as directed to a method to create a social network for patient support to track adherence to treatments. App. Br. 5.

presentation," and "scores" are recited in the claims. App. Br. 6.
Specifically, Appellants argue that Claim 1 requires the processor to perform
processing of the three-dimensional mesh data, the at least one image, or a
combination thereof, to determine one or more surface features of the one or
more object surfaces. Reply Br. 3. According to Appellants, the claims are
"an innovation and improvement in computer technology, namely a manner
for calculating visual features for at least one object surface within an
environment to determine its suitability for in-situ augmentation with at least
one content presentation." Reply Br. 4.

The Examiner finds the "processor," recited in the preamble of Claim
1 is not accorded patentable weight. Ans. 4. Regardless of whether the
recited processor is accorded patentable weight, the recited processor is a
generic computer component performing its most basic function, repetitive
calculations. *See Bancorp Services v. Sun Life*, 687 F.3d 1266, 1278 (Fed.
Cir. 2012) ("The computer required by some of Bancorp's claims is
employed only for its most basic function, the performance of repetitive
calculations, and as such does not impose meaningful limits on the scope of
those claims."). Accordingly, the recited processor does not impose
meaningful limits on the scope of the claim.

Nevertheless, the Examiner has not sufficiently addressed Appellants'
contention that because the claimed invention creates meshes and provides
presentation of content on various surface features based on mesh
information (App. Br. 6), it is not directed to abstract idea. Thus, we
conclude the Examiner has not shown Claim 1 is not a patent eligible
application.

CLAIMS 1, 4, 6–11, 14, AND 16–20: OBVIOUSNESS OVER WAGNER AND
TATZGERN

Appellants argue Claims 1, 4, 6–11, and 16–20 as a group in view of
the limitations of Claim 1. App. Br. 8.

Claim 1 recites, *inter alia*, "at least one determination of at least one
score indicating a suitability for in-situ augmentation of the one or more
object surfaces with at least one content presentation based, at least in part,
on the one or more surface features." Appellants contend the combination of
Wagner and Tatzgern does not teach this limitation. App. Br. 8–11.

Surface features.

Appellants argue the feature points of Wagner do not relate to the
recited surface features. App. Br. 9. According to Appellants, the feature
points of Wagner are points of the planar target followed based on the
movement of the camera. App. Br. 9. Appellants contend Wagner teaches
an object with limits, but not characteristics of a surface. App. Br. 10.
According to Appellants, Wagner teaches the object as "approximately flat
with a two-dimensional surface." App. Br. 10 (quoting Wagner ¶ 30).

The Examiner finds the feature points of Wagner are associated with a
target and more specifically, that the feature points are associated with a
planar target. Ans. 7 (citing Wagner ¶ 26). The Examiner explains that
Wagner illustrates surface features in different views of the planar target.
Ans. 7 (citing Wagner Figs. 4–7, ¶¶ 49–52).

We agree with the Examiner that the feature points are associated with
features on the planar target used to accurately represent the planar target.
Ans. 7; *see* Wagner ¶ 50 ("[The in-situ target creation module (]ITC[)] can

accurately triangulate the target features to calculate the area covered by the planar target in the first and second reference images and the planar target's true plane normal in the first and second reference images."). We further agree with the Examiner that Wagner teaches estimating from these feature points associated with features on the planar target the six degrees of freedom orientation and position from the plane normal and the area covered by the planar target. Ans. 7; *see* Wagner Figs. 4–7. Thus, we are not persuaded the Examiner errs.

Score indicating a suitability for in-situ augmentation.

Appellants contend the local scores of quality of Tatzgern are based on representative elements, different from the feature points of Wagner. App. Br. 10–11. Appellants argue the representative elements of Tatzgern relate how information will be presented, like the recited content presentation. App. Br. 11 (citing Tatzgern ¶ 39). According to Appellants, the score in Tatzgern does not relate to features on the object, but to placement of the content on the object to evaluate the best layout. App. Br. 11 (citing Tatzgern Abstract).

The Examiner finds Tatzgern teaches that the local scores for quality involve object features. Ans. 7–8. The Examiner further finds Tatzgern teaches the selection of the viewpoint with the highest score maintains a natural up-orientation of an object while simultaneously avoiding occlusions. Ans. 8 (citing Tatzgern ¶¶ 125, 128, 129). The Examiner explains that the movements of the scene elements in Tatzgern can be constrained to certain surfaces or directions. Ans. 8 (citing Tatzgern ¶ 78);

see Tatzgern ¶ 78 ("For example, elements located on a plane are forced to move on the respective plane.").

Contrary to Appellants' argument, the local score of quality of Tatzgern accounts for features of planes onto which representative elements are displayed such as orientation direction of the plane for natural orientation of the representative element and size of the plane to avoid occlusions. Ans. 8. Thus, we agree with the Examiner that the local score of quality of Tatzgern is based on the representative elements in addition to the orientation and size features of planes onto which the representative elements are displayed. Ans. 8. Therefore, we are not persuaded the Examiner errs. It follows, we are not persuaded the combination of Wagner and Tatzgern fails to teach " at least one determination of at least one score indicating a suitability for in-situ augmentation of the one or more object surfaces with at least one content presentation based, at least in part, on the one or more surface features," as recited in claim 1.

Non-analogous art.

Appellants contend Wagner and Tatzgern are non-analogous art. App. Br. 11 (citing *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992)); Reply Br. 5. Appellants assert Tatzgern concerns finding the best layout for augmenting reality and Wagner concerns attempting to best track objects while moving in augmenting reality. App. Br. 11.

We note Appellants fail to reference *In re Klein*, the Federal Circuit's more recent guidance stating:

> Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the

> field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

In re Klein, 647 F.3d 1343, 1348 (Fed. Cir. 2011). We are not persuaded the cited art is from different fields of endeavor. Moreover, Appellants do not sufficiently persuade us the references are not "reasonably pertinent" to the claims. A reference is reasonably pertinent if it relates to the same problem. *See Klein,* 647 F.3d at 1348. Here, both Wagner and Tatzgern are directed to optimizing a display. *See* Wagner ¶ 52; *see* Tatzgern ¶ 39. Accordingly, we are not persuaded of error.

For these reasons, we sustain the rejection of Claim 1 and of Claims 6–11, and 16–20, which were not separately argued. App. Br. 12.

CLAIMS 4 AND 14: OBVIOUSNESS OVER WAGNER AND TATZGERN

Appellants first contend that the Examiner errs in rejecting Claims 4 and 14 for the reasons advance in favor of Claim 1. App. Br. 12. Appellants next contend Tatzgern does not teach "density of the one or more visual features," as recited in dependent Claims 4 and 14. App. Br. 12. Specifically, Appellants argue Tatzgern teaches density of information items and image clutter. App. Br. 12 (citing Tatzgern ¶ 5).

The Examiner finds Tatzgern teaches density of geographic information and crowdsourcing of content. Ans. 14. The Examiner explains geographic information layout is the basis of density associated with the score. Ans. (citing Tatzgern ¶ 5); *see* Tatzgern ¶ 5 ("Social AR applications, which rely on legacy databases, such as geographic information systems, or crowdsourcing of content, can provide an arbitrary density of information items for popular subjects or locations.").

We agree with the Examiner because the geographic information represents features on a map surface as a visual layout, with density increasing with overlap of representations. Ans. 14. The Examiner finds Tatzgern teaches filtering the information encoded in the visualization by removing redundant elements. Ans. 14 (citing Tatzgern ¶ 32). According to the Examiner, Tatzgern teaches obtaining the best score with the selected representative elements. Ans. 14 (citing Tatzgern ¶ 39).

We agree with the Examiner because these teachings in Tatzgern at least suggest that the density is adjusted to obtain selected representative elements from which the score is calculated. Ans. 14. Appellants do not proffer sufficient evidence or argument to persuade us of error in the

Examiner's findings. Because Appellants do not address persuasively the Examiner's findings and reasoning, we are not persuaded of error.

CLAIMS 2, 3, 5, 12, 13, AND 15: OBVIOUSNESS OVER WAGNER, TATZGERN, AND BUNNUN

Appellants contend Bunnun fails to remedy the alleged deficiencies of Wagner and Tatzgern in the rejection of Claim 1. App. Br. 14. In view of the above discussion, we are not persuaded the Examiner has erred.

DECISION

The rejection of Claims 1–10 under 35 U.S.C. § 101 is REVERSED.

The rejection of Claims 1–20 under 35 U.S.C. § 103 is AFFIRMED.

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner's decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED